TEXAS WATER COMMISSION
WATER RIGHTS AND USES DIVISION
EVALUATION REPORT

GENERAL INFORMATION

Dam or Reservoir Lake Deerwood Dam

Owner Lake Deerwood Owners' Association, Inc.

Stream and Basin Unnamed Tributary of Brushy Creek, Cypress Creek Basin

Adjudication Certificate No. 04-4589

Application No. 3536 Permit No. 3298

Authorized Reservoir Capacity at Normal Water Level 240 A.F.

Inventory No. TX 3582 D/S Hazard [redacted]

General Location 16 miles northwest of Marshall, Texas

Zone No. 16 County Harrison

Date of Evaluation October 25, 1988

Type of Dam Earthfill Structure

*Normal Water Level: 100.00 feet
Current Water Level: 100.00 feet
* Based on Assumed Elevation 100.0' for service spillway inlet

SUMMARY

This project is in fair to good condition, and remains little changed from the previous evaluation. No serious and/or hazardous conditions that might affect the structure's integrity are apparent.

Numerous deficiencies of an ordinary nature do exist at the project. All of these can be corrected during the course of on-going routine maintenance. Seepage requires continued surveillance.

After the correction of documented deficiencies, it is recommended that the Association plan and implement an annual program of inspection and maintenance to prevent a recurrence.

This structure will be scheduled for reevaluation in five years.

BACKGROUND INFORMATION

This project has been evaluated on two previous occasions by Agency personnel. The last evaluation, conducted on September 10, 1984, revealed that the project was in fairly good condition except for the following maintenance deficiencies.

1) Minor brush and tree growth was established on both embankment slopes; however, there was evidence of prior removal efforts.

2) The upstream slope was being affected by minor wave-action erosion.

3) Moderate to severe erosion existed along some localized areas of the downstream slope, with the most damage evident in the vicinity of the 16-inch service spillway conduit.

4) Seepage was occurring along the downstream toe, but appeared essentially unchanged from the previous 1975 documentation.

The owner was furnished a copy of the last evaluation report by Commission correspondence dated February 4, 1985. The usual recommendations in regard to the correction of deficiencies were offered. There is no record of response in the files.

Adjudication Certificate No. 04-4589 was issued to the Lake Deerwood Owners' Associations, Inc. by the Commission on October 13, 1986.

CURRENT EVALUATION

Efforts to contact the owner by telephone were unsuccessful despite a listed number; therefore, the owner was notified by mail of the scheduled evaluation. Upon arrival at the dam site no representative of the Association was present; therefore, the evaluation was conducted only by the undersigned.

The existing structure remains in fairly good condition, and is essentially unchanged from the previous evaluation except for some differences in the maintenance-type deficiencies. No serious and/or hazardous conditions that might threaten the structure's integrity are apparent. The embankment exhibits no evidence of significant cracking, slide activity, buckling, or slumping. Some minor to moderate erosion does exist, as does seepage; however, neither is excessive at this time. It is noted that the asphalt-surfaced road across the embankment crest has just recently been repaired due to apparent deterioration along both sides in scattered locations. The dumping of loose fill in affected areas may be a temporary solution; however, unless a grass cover is established soon, erosion may remove the fill.

Ordinary deficiencies include the following:

1) Brush and small tree growth still exist on both embankment slopes. A comparison with the 1984 evaluation indicates growth has probably not been removed since that date.

2) The upstream slope exhibits minor to moderate erosion, primarily along the left half of the slope. Some prominent benching and several sizeable cuts into the slope exist along this segment. Both wave-action and runoff from the crest appear to be responsible.

3) Several small erosion gullies are becoming incised at the right embankment/abutment contact. The incipient gullies appear to be caused by runoff from the adjacent hillside.

4) Seepage is still evident along the downstream toe for a distance of about 200 feet left of the service spillway outlet. Seepage appears to be oozing from the toe along this segment and accumulates in a bar-ditch between the toe and a parallel road. The accumulated seepage exhibits a sluggish movement toward the outlet.

5) The discharge channel for the service spillway (i.e. across the roadway) is partially obstructed with a heavy growth of brush, trees, and other vegetation.

It is noted that no erosion of significance was observed along the downstream slope; however, erosion was documented during the previous visit.

At the conclusion of the evaluation, Mr. George Kale, one of the Association Board Members, appeared at the site. Mr. Kale, who was vacationing, was not aware of the scheduled evaluation; however, he stated that the report could be forwarded to him, and he would present it to the Board. Mr. Kale also stated that: (1) periodic maintenance is conducted as funds are available; and (2) the immediate downstream area had not been developed into a residential park as planned because of financial difficulties incurred by the original landowner.

RECOMMENDATIONS

A copy of this report is included in the letter to the owner dated February 24, 1989. The following recommendations and/or observations are offered:

1) All brush, and that tree growth having a trunk diameter of four inches or less, should be removed from both embankment slopes to prevent future problems associated with root systems. Care should be taken during removal not to damage the embankment.

2) After growth removal from the upstream slope it should be examined for erosion damage. Benched and eroded areas, including cuts, should be repaired/stabilized by appropriate means.

3) The stabilization of small gullies at the right embankment/abutment contact is desirable to prevent enlargement due to runoff erosion.

4) Seepage along the downstream toe should be kept under surveillance to detect any significant change in pattern or volume.

5) The removal of growth for a reasonable distance downstream in the service spillway discharge channel to permit unobstructed flow is desirable.

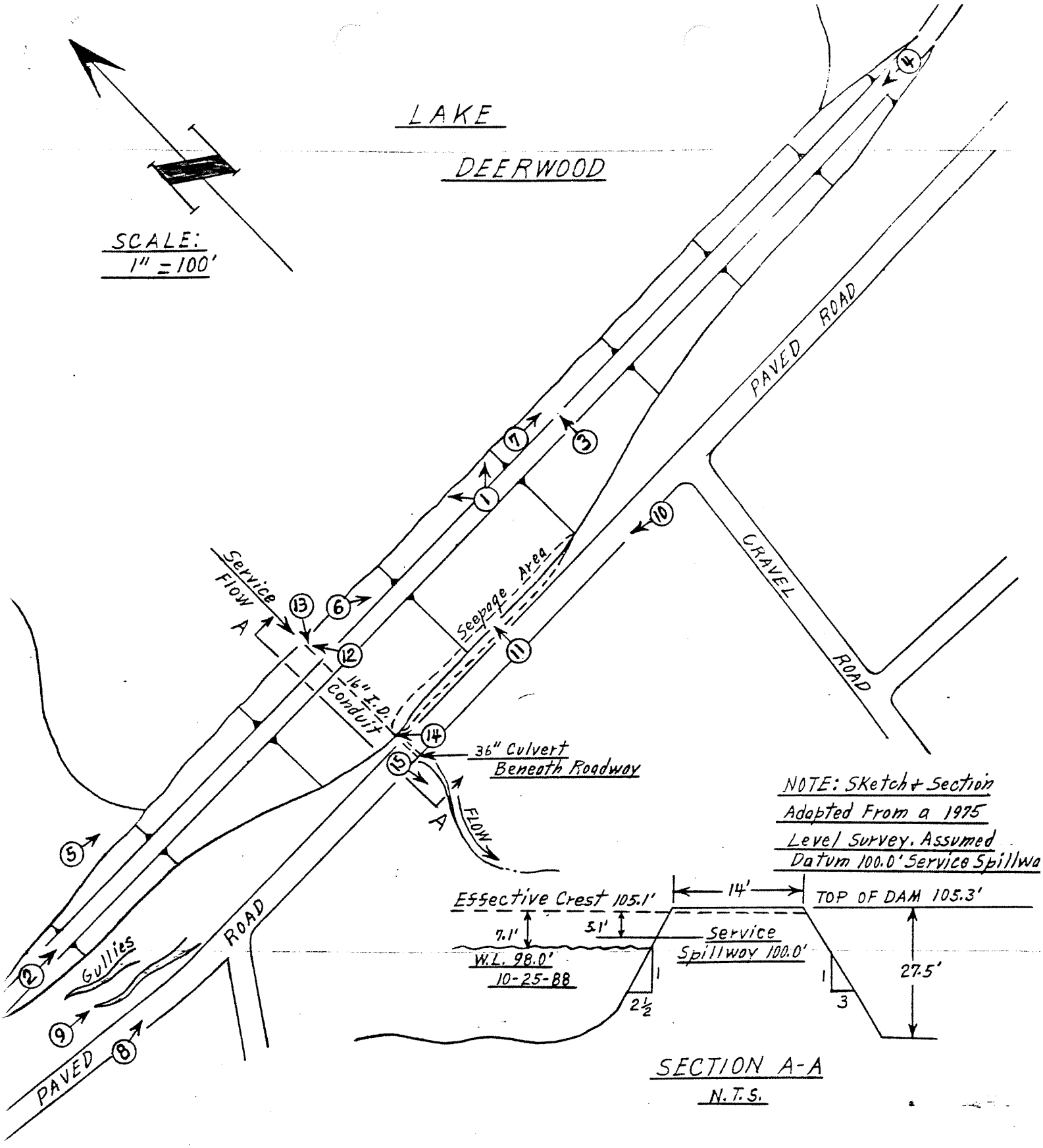
Raymond R. York

Raymond R. York

RRY:lj

APPROVED: Warren D Samuelson

Warren D. Samuelson, P. E.



LAKE DEERWOOD DAM

ADJUD. CERTIFICATE 04-4589

L. DEERWOOD OWNERS' ASSOC., IN

OCTOBER 25, 1988

Photo No. 1: Panoramic view of Lake Deerwood from the embankment crest.

Photo No. 2: Overview of the embankment from a hillside at the right abutment. Repairs have recently been made to the asphalt road that traverses the crest.

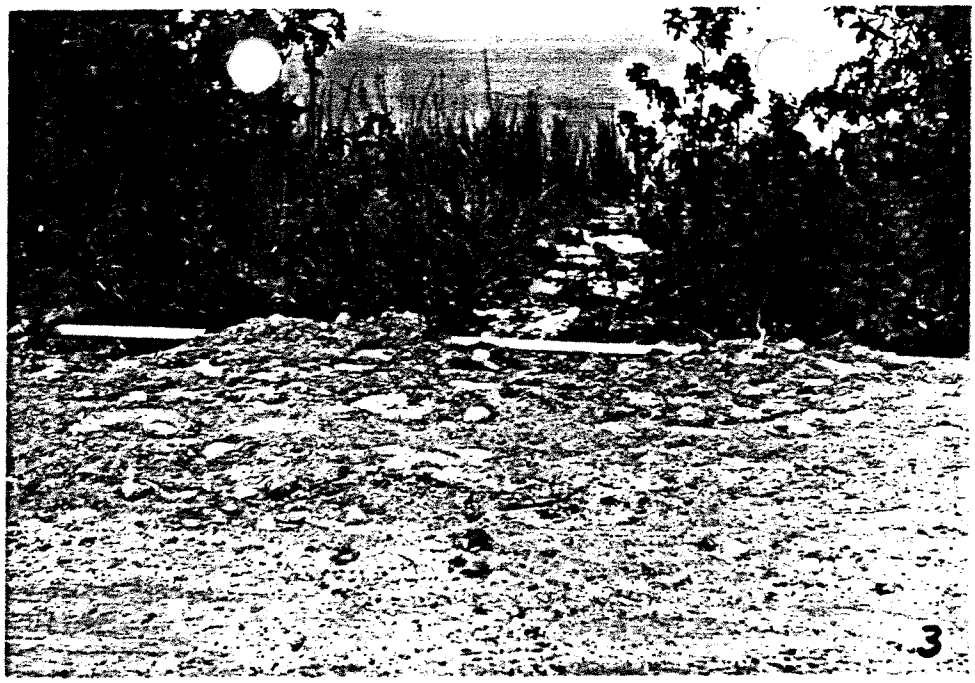


Photo No. 3: This closeup shows a typical repaired area. Loose, uncompacted, sandy loam has been dumped in cuts and irregular areas where the asphalt roadway has deteriorated and become unstable.

Photo No. 4: Looking back along the 14-foot wide, 1,050-foot long crest from the left abutment. Note the extensive areas that have been repaired. Unless a grass sod is soon established in newly-filled areas, erosion is likely to remove some of the fill.

Photo No. 5: The 2 1/2 H to 1 V upstream slope. The brush and small trees appear to be regrowth that has increased in size since the 1984 evaluation.

Photo NO. 6: A typical view of the upstream slope just left of the service spillway inlet. A prominent bench and several erosion cuts (right) exist in this general location.

Photo No. 7: That segment of upstream slope is in fairly good condition except for the brush and small tree growth.

Photo No. 8: Overall view of the 3 H to 1 V downstream slope. Most of the brush and small trees are apparently regrowth from prior cuttings. A cluster of larger trees appears near the right end (foreground).

Photo No. 9: This closeup shows the development of several small erosion gullies near the right embankment/abutment contact. Erosion is being caused by runoff from the hillside.

Photo No. 10: The downstream slope as seen from the road near its left end. The dashed line delineates a general area of oozing seepage along the toe.

Photo No. 11: This closeup from the road shows an accumulation due to the oozing seepage. The standing to sluggishly-moving water gravitates to the service spillway outlet.

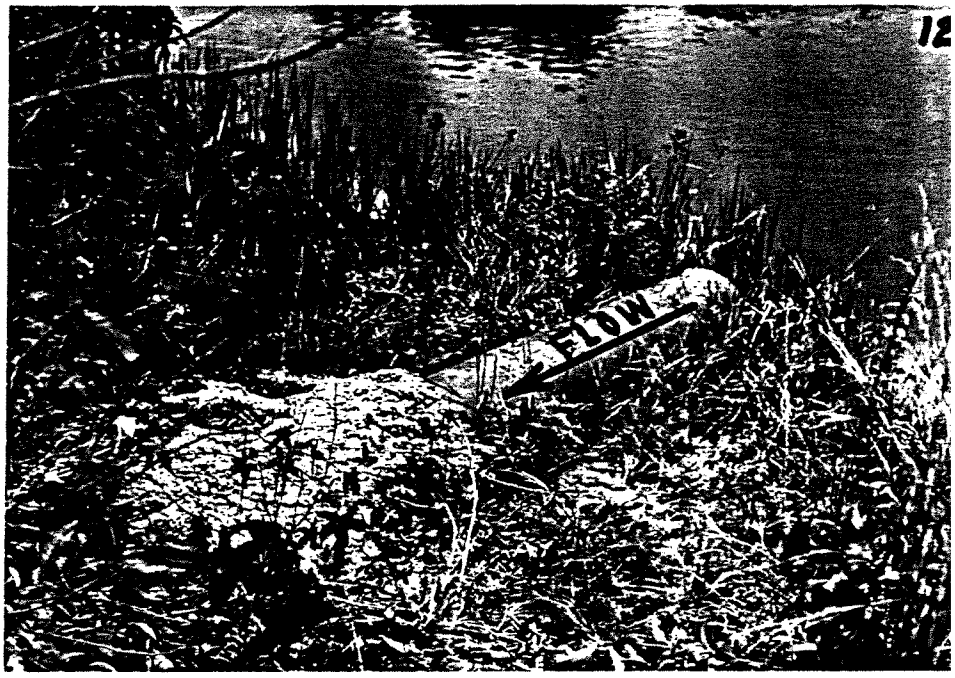


Photo No. 12: The inlet end of the 16-inch I. D., service spillway conduit. This is the only spillway facility for the structure.

Photo No. 13: A closeup of the service spillway inlet. Note that steel reinforcing rods have been utilized to fashion a large-diameter trashguard.

Photo No. 14: The outlet end of the service spillway conduit near the downstream toe. The accumulation of water (bottom) is apparently from seepage shown in previous photos.

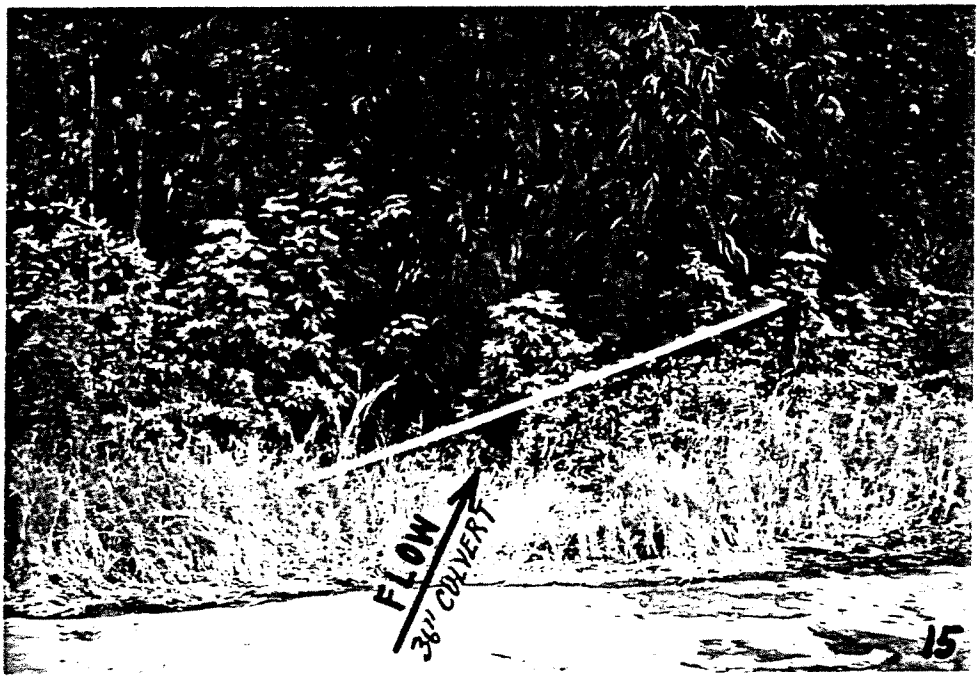
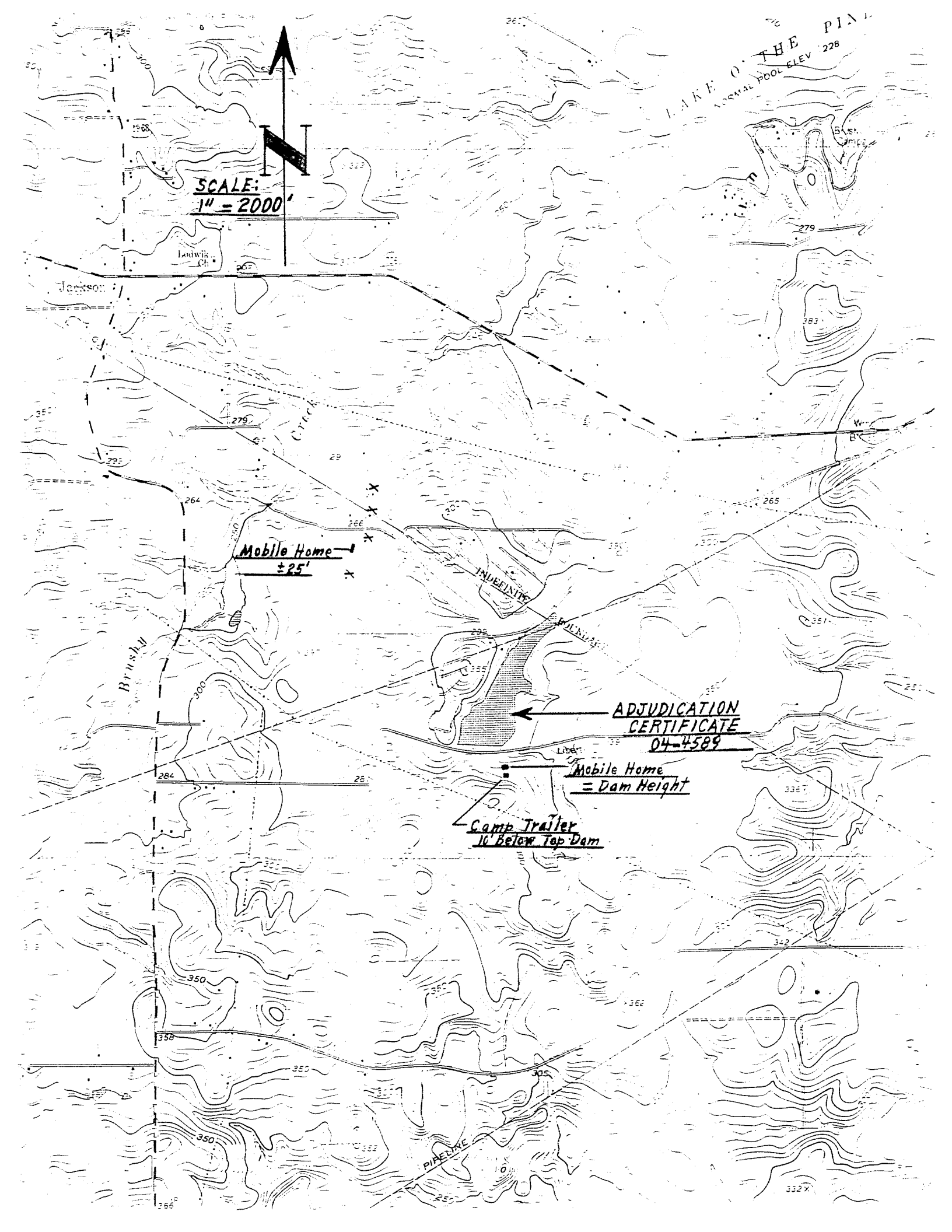
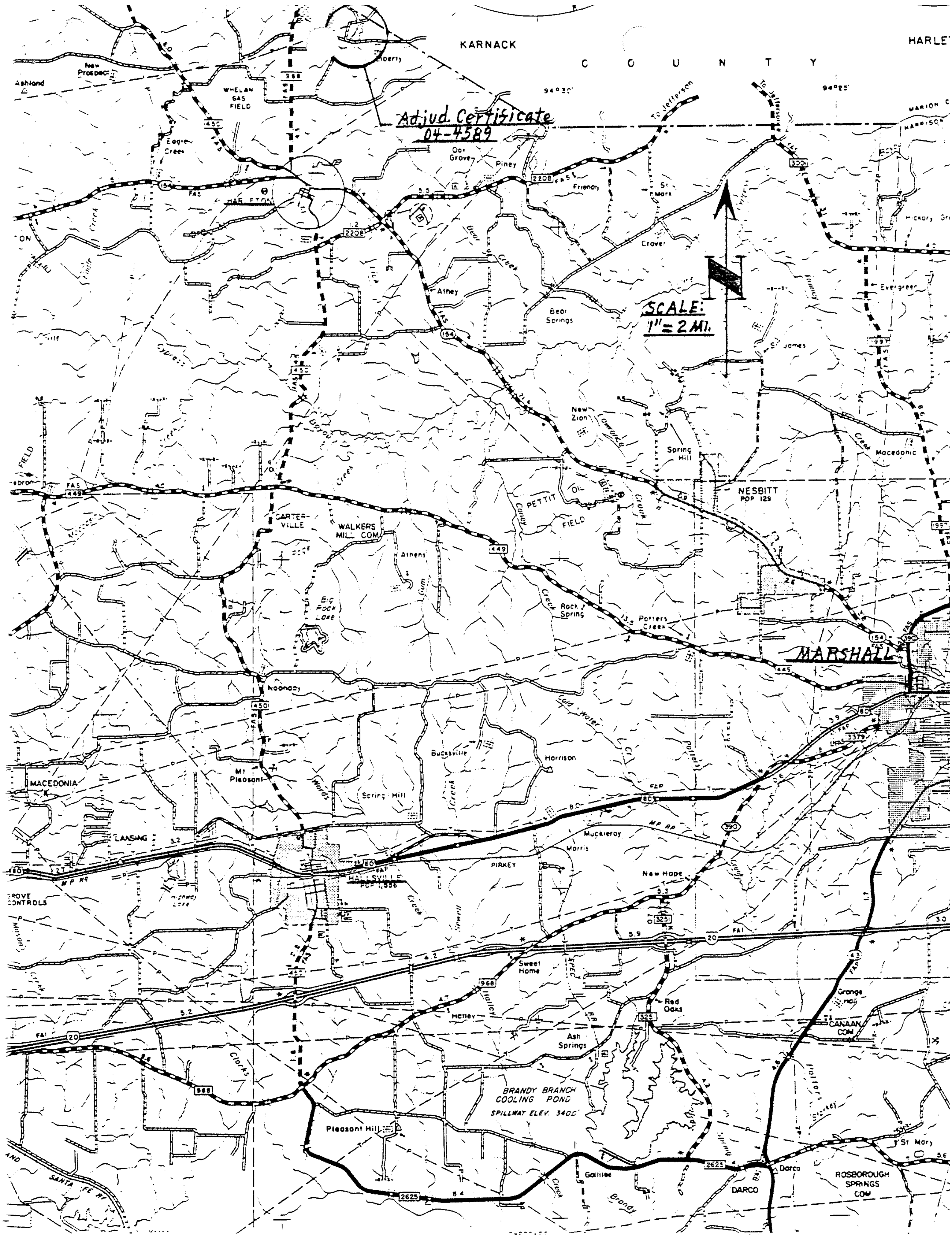


Photo No. 15: A downstream view of the service spillway discharge channel from the road that parallels the toe. A 36-inch culvert beneath the road carries discharge from the outlet (previous photo) to this point. Note that the channel is choked with vine, brush, and tree growth.


N
SCALE:
1" = 2000'
LAKE O' THE PINES
NORMAL POOL ELEV. 228
Ladwik Ch.
Jackson
Creek
Mobile Home
±25'
INDEFINITE
BOUNDARY
Brushy
ADJUDICATION
CERTIFICATE
04-4589
Liber
Mobile Home
= Dam Height
Camp Trailer
16' Below Top Dam
PIPELINE


KARNACK
HARLE
COUNTY
Adjud. Certificate
04-4589
SCALE:
1" = 2 MI.
MARSHALL
New Prospect
Ashland
WHELAN GAS FIELD
Liberty
Eagle Creek
Oak Grove
Piney
Friendly
St Marys
HALLETON
Craver
Athey
Bear Springs
St James
Evergreen
Hickory Grove
New Zion
Spring Hill
Macedonia
NESBITT
POP 129
PETTIT OIL FIELD
CARTERVILLE
WALKERS MILL COM
Athens
Big Rock Lake
Rock Spring
Potters Creek
Woodlawn
Bucksville
Harrison
MACEDONIA
Mt Pleasant
Spring Hill
LANSING
Muckleroy
Morris
PIRKEY
New Hope
HALLSVILLE
POP 1,556
GROVE CONTROLS
Sweet Home
Red Oaks
Grange Hall
Ashley
CANAAN COM
Ash Springs
BRANDY BRANCH COOLING POND
SPILLWAY ELEV. 340.0'
Pleasant Hill
Galilee
DARCO
Darco
St Mary
ROSBOROUGH SPRINGS COM
To Jefferson